An hourglass-shaped graphic with a globe of the Earth inside. The top bulb is dark grey, and the bottom bulb is light blue. The central neck is light grey. The globe is rendered in shades of blue and grey.

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Saving Incentives: What May Work, What May Not

Thomas L. Hungerford, Government and Finance Division

September 27, 2007

Abstract. The government offers tax incentives to individuals and families to save. The empirical evidence on the relationship of tax incentives to the saving rate mostly comes from examinations of traditional individual retirement accounts (IRAs) and 401(k) plans. The reported results are mixed, but generally indicate small effects. Be that as it may, the tax incentives tend to benefit higher-income individuals and families to a much greater extent than lower-income individuals and families. The primary reasons are (1) higher-income individuals are much more likely to save, and (2) higher-income individuals face higher marginal tax rates and benefit more from sheltering income from taxation.

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Saving Incentives: What May Work, What May Not

Thomas L. Hungerford
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Summary

Saving is the portion of national output that is not consumed and represents resources that can be used to increase, replace, or improve the nation's capital stock. The U.S. net national saving rate reached a post-war peak of 12.4% in 1965 and has then trended downward since to a low of 1.9% in 2006. Many analysts claim that saving is too low. Among the Organization for Economic Cooperation and Development (OECD) countries, the United States has the third lowest saving rate.

Survey evidence suggests that people know why they should save, but many don't save, especially lower-income individuals and families. Several reasons have been offered to explain the declining personal saving rate and the relatively high proportion of individuals and families that do not save. Economic reasons start from the premise that individuals and families are rational and make optimal decisions about consumption and saving throughout the life course. Low saving rates are then explained by economic disincentives induced by government policy or by life cycle changes in the propensity to save. Behavioral reasons start from the premise that individuals and families do not always make optimal decisions regarding consumption and saving.

The government offers tax incentives to individuals and families to save. The empirical evidence on the relationship of tax incentives to the saving rate mostly comes from examinations of traditional individual retirement accounts (IRAs) and 401(k) plans. The reported results are mixed, but generally indicate small effects. Be that as it may, the tax incentives tend to benefit higher-income individuals and families to a much greater extent than lower-income individuals and families. The primary reasons are (1) higher-income individuals are much more likely to save, and (2) higher-income individuals face higher marginal tax rates and benefit more from sheltering income from taxation.

Furthermore, the tax revenue loss for these incentives lower public saving by reducing the budget surplus or increasing the budget deficit. For FY2007, these tax incentives are estimated to cost the U.S. Treasury \$133.8 billion in forgone tax revenues—almost 85% of the estimated FY2007 budget deficit. The Bush Administration and the President's Advisory Panel on Federal Tax Reform have advocated expanding tax incentives as the primary policy to encourage personal saving. Research has shown that personal saving has been fairly unresponsive to tax incentives, however, and such incentives may substantially decrease public saving (that is, increase the budget deficit). The long-term net effect on national saving and economic growth is likely negative.

This report contains historical data and will not be updated.

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From an individual's perspective, saving is "money in the bank." The increases in wealth that saving represents can be spent in the near future for emergencies or children's educational expenses, in the distant future for retirement, or passed down to heirs.¹ From a national perspective, however, saving is income that is not spent on consumption goods or services. That is, it is the portion of national output that is not consumed and represents resources that can be used to increase, replace, or improve the nation's capital stock.²

Many analysts claim that saving is too low. For example, recent research has shown that about a quarter of the U.S. population live in households whose assets are below 25% of the poverty threshold.³ If housing wealth is not included, the proportion increases to over 40% of the U.S. population. Furthermore, retirement specialists argue that many people nearing retirement have not accumulated enough assets to maintain their present living standards after retirement.⁴

At the national level, analysts caution against a low savings rate. They argue that high capital investment is a good thing, but if it is not financed by national saving it has to be financed by borrowing abroad.⁵ Persistent borrowing from abroad builds up international liabilities and implies increasing shares of national income will be sent overseas as interest and dividends. It is difficult to say that the U.S. national saving rate is too low since there is no universally accepted definition of what constitutes a low saving rate. But it is noteworthy that among the Organization for Economic Cooperation and Development (OECD) countries, the United States has the third lowest saving rate.⁶

The post-World War II trend in the U.S. saving rate (saving as a percentage of gross domestic product) is shown in **Figure 1**.⁷ The net national saving rate (the heavy solid line) reached a post-war peak of 12.4% in 1965 and has trended downward since then to a low of 1.9% in 2006.

¹ The term saving refers to the flow of resources not consumed and represents additions to wealth. Savings is a synonym for wealth.

² See CRS Report RL30873, *Saving in the United States: How Has It Changed and Why Is It Important?*, by Brian W. Cashell and Gail E. Makinen.

³ See Asena Caner and Edward N. Wolff, "Asset Poverty in the United States, 1984-1999: Evidence from the Panel Study of Income Dynamics," *Review of Income and Wealth*, vol. 50, no. 4 (Dec. 2004), pp. 493-518. The authors adopt the definition of "asset poor" as a household whose "access to 'wealth-type resources' is insufficient to enable the household to meet its 'basic needs' for some limited 'period of time.'" They choose the poverty threshold as their definition of basic needs and three months as the limited period of time.

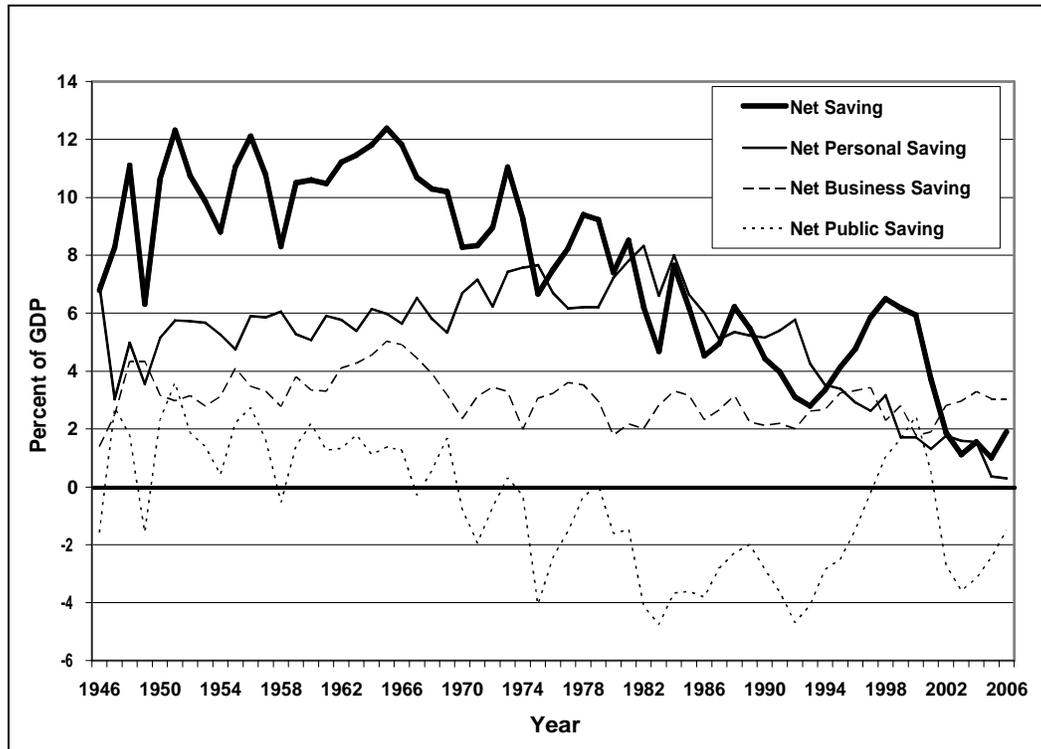
⁴ See, for example, B. Douglas Bernheim and John Karl Scholz, "Private Saving and Public Policy," in James M. Poterba, ed., *Tax Policy and the Economy*, Vol. 7 (Cambridge, MA: MIT Press, 1993), pp. 73-110; and Alicia H. Munnell, Anthony Webb, and Luke Delorme, *A New National Retirement Risk Index*, Center for Retirement Research at Boston College, Issue Brief no. 48, Jun. 2006.

⁵ See, for example, Edward Gramlich, "The Importance of Raising National Saving," speech at the Benjamin Rush Lecture, Dickinson College, PA, Mar. 2, 2005.

⁶ Only Iceland and Portugal have lower national saving rates than the United States. See *OECD in Figures*, OECD Observer 2006, Supplement 1.

⁷ The figure shows net saving rather than gross saving. Gross saving includes depreciation allowances destined to replace existing capital. Net saving represents resources from forgoing consumption that are available to increase the stock of capital.

Figure I. Net National Saving Rates, 1946-2006



Source: Department of Commerce, Bureau of Economic Analysis.

There are three components to national saving. The first is personal saving or the saving by individuals and households (the light solid line in the figure). This is what people typically think of as saving. The second component is business saving, which consists of corporate retained earnings (the dashed line). The final component is public saving, which is federal, state, and local government surpluses (the dotted line). Public saving can be and often is negative if the government sector is running a deficit.

The decline in the national saving rate since 1965 has two main sources. First, the public saving rate fell from 1.4% in 1965 to -4.2% in 1983. Most of this decline in the public saving rate was due to increasing federal budget deficits. After 1982, the steady fall in the personal saving rate accounts for much of the decline in the national saving rate. The fall in the personal saving rate has been attributed to a combination of factors including the increase in transfer income (which is rarely saved), an increase in household wealth, and an increase in the proportion of the population 65 years or older (who tend to spend rather than accumulate savings).⁸ Each of these could increase consumption relative to income, thus lowering saving.

In response to the perceived low saving rate, the government offers many saving incentives through the tax system. In addition, many employers offer some inducements to encourage their employees to save for retirement. This report examines why individuals and households save or don't save, and the effectiveness of the various incentives and inducements in increasing personal and national saving.

⁸ See David W. Wilcox, "Household Spending and Saving: Measurement, Trends, and Analysis," *Federal Reserve Bulletin*, vol. 77, no. 1 (Jan. 1991), pp. 1-17.

Reasons for Saving and Not Saving

John Maynard Keynes argued that there are eight primary reasons or motives leading individuals to save (that is, to forgo consumption):⁹

- Precaution motive: “To build up a reserve against unforeseen contingencies,”
- Foresight motive: “To provide for an anticipated future relation between the income and the needs of the individual or his family different from that which exists in the present,”
- Calculation motive: “To enjoy interest and appreciation,”
- Improvement motive: “To enjoy gradually increasing expenditures,”
- Independence motive: “To enjoy a sense of independence and the power to do things,”
- Enterprise motive: “To secure a *masse de manœuvre* to carry out speculative or business projects,”
- Pride (bequest) motive: “To bequeath a fortune,” and
- Avarice motive: “To satisfy pure miserliness.”

Others have added a down payment motive as a ninth reason for saving.¹⁰ Recent survey evidence generally confirms that many of these motives are the main reasons why Americans save (see **Table 1**). The table reports the response of prime-aged heads of households grouped by age and income.¹¹

Table 1. Reasons for Saving by Age and Income Group

	Ages 25-39		Ages 40-49		Ages 50-59	
	Bottom Half	Top Half	Bottom Half	Top Half	Bottom Half	Top Half
Retirement	14.5%	31.1%	30.7%	50.4%	38.1%	48.8%
Precautionary	30.1	30.9	29.8	20.0	31.4	23.0
House	12.9	6.3	6.5	1.4	3.4	2.8
Purchases	9.9	5.1	10.7	4.4	9.8	4.6
Education	20.1	19.4	12.4	21.0	6.4	8.2
Other	9.4	6.8	4.6	1.9	4.4	3.8
Can't Save	3.2	0.4	5.4	1.0	6.6	0.4

Source: CRS tabulation of 2004 Survey of Consumer Finances.

⁹ John Maynard Keynes, *The General Theory of Employment, Interest and Money* (London: MacMillan and Co., 1936), pp. 107-108.

¹⁰ See Martin Browning and Annamaria Lusardi, “Household Saving: Micro Theories and Micro Facts,” *Journal of Economic Literature*, vol. 34, no. 4 (Dec. 1996), pp. 1797-1855. As an example, qualifying for a mortgage with no private mortgage insurance requires a down payment of 20%.

¹¹ Families are divided into the top half or the bottom half of the income distribution based on total family income.

Note: Columns may not sum to 100% due to rounding.

Four major points can be made about these results. First, saving for retirement is generally the most important reason for saving in nearly every age and income group. The foresight or retirement motive is stronger for older age groups—the age groups closer to retirement. Furthermore, families in the upper half of the income distribution are more likely to cite saving for retirement as their primary reason for saving than those in the lower half of the income distribution.

Second, saving for the inevitable rainy day (the precaution motive) appears to be the primary reason for saving among younger families in the lower half of the income distribution. For the other groups, it is the second most frequently cited reason for saving. For the older two age groups, those with lower income are more likely to save for precautionary reasons than those with more income.

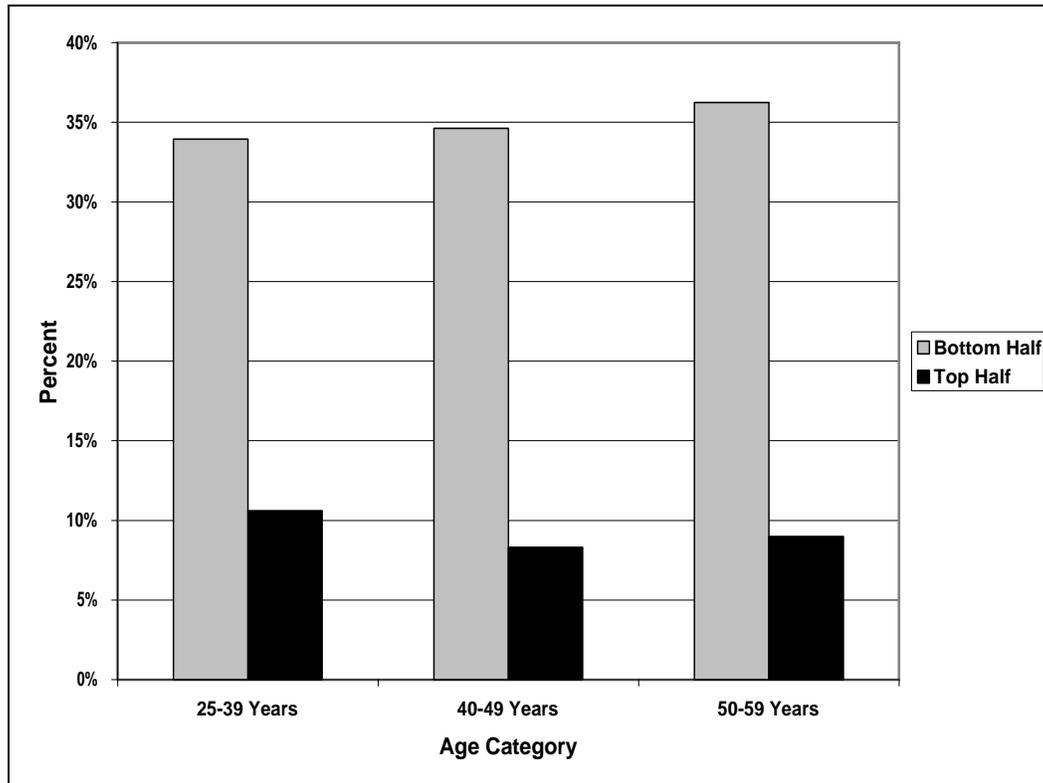
Third, within each age group, those in the lower half of the income distribution are more likely than those in the upper half to cite saving for future purchases of goods and services such as homes, home repairs, and durable goods as the most important reason to save. A possible explanation for this disparity by income is lower-income families may be credit constrained and have to save for purchases rather than using a credit card.

Lastly, among the youngest families, about one in five report that education is the most important reason for saving (the improvement motive). For the young families, there is not much difference between the two income groups. Older families, especially those in the oldest age group, are less likely to report this as an important reason for saving since their children are generally grown and finished with their formal education.

The results reported in **Table 1** suggest that people know why they should save, but provides little information on whether or not they do save. **Figure 2** shows the percentage of families in each age and income group who report not saving. There is relatively little variation across age groups—about 20% of the families do not save. There are large disparities, however, by income. About 10% of the families in the upper half of the income distribution report not saving. In contrast, about a third of the families in the lower half of the income distribution do not save.

Several reasons have been offered for the declining personal saving rate and the relatively high proportion of individuals and families that do not save. The economic reasons start from the premise that individuals and families are rational and make optimal decisions about consumption and saving throughout the life course. Low saving rates are then explained by economic disincentives induced by government policy or by life cycle changes in the propensity to save. Behavioral reasons start from the premise that individuals and families do not always make optimal decisions regarding consumption and saving.

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Figure 2. Percentage of Households Not Saving By Age and Income Group

Source: CRS analysis of 2004 Survey of Consumer Finances.

Economic Reasons for Low Savings and Saving Rates

At the aggregate level, some analysts point out that the rising proportion of the elderly in the U.S. population may explain the declining saving rate. Since the elderly should dissave (that is, spend their savings) rather than save, the aggregate saving rate should fall. Research has shown, however, that saving rates do not vary that much across age groups, and the change in the age distribution in the 1980s was too small to explain the decline in the aggregate saving rate.¹²

Although the change in the age distribution of the U.S. population toward a higher proportion of elderly may not explain the fall in the saving rate, there is evidence that the elderly now are saving less than past cohorts of elderly. Research shows that there has been an increase in annuitization of wealth (especially Social Security and defined benefit pension wealth) which could be due to lessened bequest and precautionary motives.¹³ Consequently, consumption by the elderly is higher and saving is lower. More elderly who are saving less may have had some effect on the personal saving rate. But this does not explain low saving rates for younger individuals.

¹² See Alan J. Auerbach and Laurence J. Kotlikoff, "Demographics, Fiscal Policy, and U.S. Saving in the 1980s and Beyond," in Lawrence H. Summers, ed., *Tax Policy and the Economy*, Vol. 4 (Cambridge, MA: MIT Press, 1990), pp. 73-101.

¹³ See Alan J. Auerbach, Laurence J. Kotlikoff, and David N. Weil, *The Increasing Annuitization of the Elderly—Estimates and Implications for Intergenerational Transfers, Inequality, and National Saving*, National Bureau of Economic Research, Working Paper no. 4182, Oct. 1992.

Furthermore, this finding may change in the future with the shift from defined benefit pension plans to defined contribution pension plans (especially 401(k) plans), which do not have to be annuitized at retirement.

Some have argued that social welfare programs (social insurance and public assistance) have contributed to the decline in saving. Social insurance programs such as unemployment insurance and Social Security (both for disability and old age) may have reduced the need for precautionary saving.¹⁴ But there have been no large scale changes in these programs since 1980 that could explain the trend in personal saving. Furthermore, recent research shows that the precautionary saving motive does not give rise to much wealth in the economy and probably to relatively little saving.¹⁵

A related argument suggests that asset-based, means-tested public assistance programs such as Temporary Assistance to Needy Families, Supplemental Security Income, and food stamps discourage saving by families with low expected lifetime earnings. Proponents of this argument point out that the asset test acts as an implicit 100% tax rate on savings “in the event of an earnings downturn or medical expense large enough to cause the household to seek welfare support.”¹⁶ This would prevent these families from saving for precautionary reasons and for retirement since most public assistance programs include both regular and retirement savings accounts as assets subject to the asset limit. This may help explain why lower-income families have little savings, but does not explain the decline in the personal saving rate since the mid-1980s because the means-testing rules of these programs have not substantially changed over the past 25 years. In addition, many low-income families do not save because after everyday living expenses are covered there is little or no money left over for saving.

Two financial explanations offered to explain declining saving rates are (1) capital gains in housing and equities, and (2) the development of financial markets. The increase in wealth from unrealized capital gains in housing and equities since 1990 allows individuals and families to maintain a target level of wealth (and even increase the target level) without active saving. The developments and expansion in credit cards and home equity loans mean families do not have to save as much for future durable good and home purchases.

Retirement saving has to last throughout the retirement years. Recent evidence suggests that individuals tend to underestimate how long they will live. Survey results show that a majority of Americans underestimate the life expectancy “for someone their own age and gender.”¹⁷ Similarly, British men and women underestimate how long they are likely to live by about five years.¹⁸ Consequently, even if people are saving for retirement, they may be undersaving because they are saving for a shorter retirement period than what they will actually experience. This could help explain low levels of savings, but cannot explain the downward trend in personal saving rates unless there has been a change in Americans’ underestimate of their life expectancy.

¹⁴ See Lawrence Summers and Chris Carroll, “Why Is U.S. National Saving So Low?” Brookings Institution, *Brookings Papers on Economic Activity*, no. 1, 1987, pp. 607-635.

¹⁵ See Erik Hurst, Annamaria Lusardi, Arthur Kennickell, and Francisco Torralba, *Precautionary Savings and the Importance of Business Owners*, National Bureau of Economic Research, Working Paper no. 11731, Nov. 2005.

¹⁶ R. Glenn Hubbard, Jonathan Skinner, and Stephen P. Zeldes, “Precautionary Saving and Social Insurance,” *Journal of Political Economy*, vol. 103, no. 2 (1995), p. 393.

¹⁷ Society of Actuaries, *2005 Risks and Process of Retirement Survey: Report of Findings*, Mar. 2006, p. 5.

¹⁸ Chris O’Brien, Paul Fenn, and Stephen Diacon, *How Long Do People Expect to Live? Results and Implications*, Centre for Risk and Insurance Studies, Research Report 2005-1, June 2005.

Behavioral Reasons for Low Savings and Saving Rates

In recent years, behavioral models have been developed to explain low savings and low saving rates, especially for retirement. The traditional economic model of saving, the life-cycle model, assumes that individuals make rational, far-sighted decisions. The theory implies that saving rates increase with age and savings accumulate until retirement when individuals begin to spend down their savings. The bulk of the empirical evidence, however, tends to not support the life-cycle model.¹⁹ Unlike the traditional economic model for saving, behavioral models stress that individuals can and do make choices that are unfavorable to themselves. These models emphasize the role of inertia, the lack of self-control, and the limits of human intellectual capabilities.

Retirement savings accounts (for example, 401(k) plans and IRAs) require workers to be proactive and decide to participate, how much to save, and how to invest the retirement account assets. But through inertia, workers may never make or at least postpone making these critical decisions. Research shows that changing the “default” options in 401(k) plans so the workers have to decide *not* to participate can substantially increase participation rates in these plans and increase retirement saving.²⁰ Workers, through inertia, also tend to accept the default contribution rate and the investment allocation chosen by the plan administrator. Therefore, the defaults need to be carefully chosen to allow for an adequate return while protecting the worker’s investment.

Saving takes will power. Individuals have to forgo current consumption in order to save for future consumption, and they may not have the self-control to forgo consumption.²¹ Often individuals develop self-regulatory mechanisms or rules to control spending such as mental accounting systems. In a mental accounting system the individual treats money in different accounts as not being fungible, and has a different propensity to spend money from the different accounts. But equally as often individuals manipulate or bend their own rules of self-control.²²

To make the complex decisions determining the optimal consumption path over a lifetime requires not only complete information on the economic environment, but also almost unlimited computing power. Individuals, however, rarely have complete information, and may not be able to adequately process the information they do have. To deal with human information processing limitations, individuals often use simple rules of thumb to make these complex decisions and generally accept alternatives that are “good enough” rather than optimal.²³ Consequently, individuals may make seemingly short-sighted decisions and save too little.

Many people nearing retirement age do not plan ahead and have not thought about retirement and financing their retirement. A recent study found that about a third of older Americans aged 50 to

¹⁹ See, for example, Paul Courant, Edward Gramlich, and John Laitner, “A Dynamic Micro Estimate of the Life Cycle Model,” in Henry J. Aaron and Gary Burtless, eds., *Retirement and Economic Behavior* (Washington, DC: Brookings Institution, 1986); and B. Douglas Bernheim, Jonathan Skinner, and Steven Weinberg, “What Accounts for the Variation in Retirement Wealth Among U.S. Households?” *American Economic Review*, vol. 91, no. 4 (Sept. 2001.), pp. 832-857.

²⁰ Brigitte C. Madrian and Dennis F. Shea, “The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior,” *Quarterly Journal of Economics*, vol. 116, no. 4 (Nov. 2001), pp. 1149-1187.

²¹ See, for example, Richard H. Thaler, “Psychology and Savings Policies,” *American Economic Review*, vol. 84, no. 2 (May 1994), pp. 186-192.

²² Amar Cheema and Dilip Soman, “Malleable Mental Accounting: The Effect of Flexibility on the Justification of Attractive Spending and Consumption Decisions,” *Journal of Consumer Psychology*, vol. 16, no. 1 (2006), pp. 33-44.

²³ See, for example, Herbert A. Simon, *The Sciences of the Artificial*, 2nd Edition (Cambridge, MA: MIT Press, 1981).

61 years have not thought about retirement. Furthermore, those who have not thought about retirement have significantly lower net financial wealth than those who have thought about retirement (either a little or a lot).²⁴

Inducements to Save

The government offers various incentives to individuals, families, and businesses to save. In addition, businesses offer a variety of inducements to encourage their employees to save for retirement. The incentives and inducements are designed to overcome one or more barriers to saving.

Tax Incentives

Tax incentives increase the effective rate of return on savings. Tax-favored savings plans for individuals and families are classified as either front-loaded or back-loaded.²⁵ In front-loaded plans, the contributions are tax deferred so the tax benefits primarily accrue at the time money is contributed to the account. The earnings grow tax-free until the funds are withdrawn or distributed. At that time, both the contributions and earnings are taxed. Traditional deductible IRAs and 401(k) plans are examples of a front-loaded savings accounts. In back-loaded plans, after-tax dollars are contributed to the account, and neither the contributions nor the earnings are taxed for qualified withdrawals. The Roth IRA is the best known example of a back-loaded savings account.

Both types of plans will yield a higher after-tax distribution than regular taxable savings accounts, thus providing an incentive to save in these accounts. As long as the tax rate is the same at the time of withdrawal as when the funds were contributed, both front-loaded and back-loaded savings accounts will yield the same after-tax distribution at retirement. Individuals who save for their children's education, on the one hand, often begin saving early in their working career when their earnings are relatively low, and tend to be in the lower tax brackets. They then withdraw the funds during their peak earning years when their children attend college. Consequently, they may be in a higher tax bracket when the monies are distributed from the savings account. A back-loaded plan may confer greater benefits than a front-loaded plan in this case. On the other hand, individuals saving for retirement often are in higher tax brackets during their working years than at retirement. For these individuals, a front-loaded plan may confer greater benefits. In either case, the saving decisions are often made several years before anticipated withdrawals, and it is difficult to know what tax bracket one will be in so far in advance.

These tax incentives, however, can affect both personal and public saving. The tax revenue loss for these incentives will lower public saving by reducing the budget surplus or increasing the budget deficit.²⁶ The reduction in public saving may more than offset any increase in personal

²⁴ Annamaria Lusardi, "Information, Expectations, and Savings for Retirement," in Henry J. Aaron, ed., *Behavioral Dimensions of Retirement Economics* (Washington, DC: Brookings Institution, 1999).

²⁵ For a discussion of many of the issues with regards to IRAs see CRS Report RL30255, *Individual Retirement Accounts (IRAs): Issues and Proposed Expansion*, coordinated by Thomas L. Hungerford and Jane G. Gravelle.

²⁶ The cost of tax incentives are measured in terms of tax expenditures, which are estimates of the revenue losses attributable to provisions of federal tax laws.

saving induced by the tax incentives. The costs of front-and back-loaded savings plans are reflected in the federal budget at different times. For front-loaded plans, the tax expenditures are incurred immediately, and the revenues from taxing distributions occur in the future. But there are no immediate tax expenditures for back-loaded savings plans because only after-tax income is contributed to the account. The costs to the government are reflected in the budget only when the monies are distributed from the account. Over the long-term, a front-loaded plan may be less costly to the government than a back-loaded plan, but within the typical 5- or 10-year budget window, the back-loaded plan will look less expensive.

The tax expenditures of these tax incentives are not trivial. **Table 2** reports the estimated tax expenditures for the exclusion of contributions and earnings for employer pension plans such as 401(k) plans, IRAs, and Keogh plans, in addition to the Saver's Credit which is discussed below. The Joint Committee on Taxation estimates that the FY2007 retirement income related tax expenditures will amount to \$133.8 billion, which is equivalent to 84.7% of the Congressional Budget Office's estimate of the FY2007 federal budget deficit. By FY2011, these tax expenditures are estimated to reach \$175.7 billion.

Table 2. Estimates of Tax Expenditures, 2007-2011 (billions of dollars)

	Fiscal Year				
	2007	2008	2009	2010	2011
Employer Plans	\$108.6	\$114.1	\$120.4	\$126.7	\$137.5
IRAs	15.5	17.0	18.5	20.0	23.2
Keogh Plans	8.8	9.5	10.6	11.5	14.1
Saver's Credit	0.9	0.9	0.9	0.9	0.9
Total	133.8	141.5	150.4	159.1	175.7

Source: U.S. Congress, Joint Committee on Taxation, *Estimates of Federal Tax Expenditures For Fiscal Years 2007-2011*, committee print, 110th Congress, 1st sess., Sept. 24, 2007 (Washington: GPO 2007).

Furthermore, conventional economic theory and empirical analysis do not offer unambiguous evidence that these tax incentives have increased personal saving. From a theoretical perspective, the effect of a tax reduction on personal saving is ambiguous because of offsetting income and substitution effects. The increased rate of return may cause individuals to substitute future consumption for current consumption and save more (a substitution effect), but, at the same time, the higher rate of return allows individuals to save less and still obtain their target amount of savings (an income effect). The overall consequences for personal savings depends on the relative magnitude of these two effects. In the case of IRAs, personal savings may be unaffected because most of the tax benefits are provided to individuals contributing the maximum amount, which eliminates any substitution effect. Casual observation suggests that the income effect dominates since the personal saving rate has fallen since the introduction of IRAs and 401(k) plans. The empirical evidence on the relationship of tax incentives to the saving rate mostly comes from examinations of traditional IRAs and 401(k) plans. The reported results are mixed, but generally indicate small effects.²⁷ Furthermore, Roth IRAs eliminate the immediate reward to retirement saving because the contributions are not tax deductible and may thus reduce saving.

²⁷ For a more complete discussion of the savings literature, see Jane G. Gravelle, *The Economic Effects of Taxing Capital Income* (Cambridge, MA: MIT Press, 1994), p. 27 for a discussion of the general empirical literature on (continued...)

In general, many tax incentives to increase saving tend to benefit higher-income individuals and families to a much greater extent than lower-income individuals and families. The primary reasons are (1) higher-income individuals are much more likely to save, and (2) higher-income individuals face higher marginal tax rates and benefit more from sheltering income from taxation. Furthermore, with regards to educational savings plans, the penalties for using the educational savings for non-educational purposes may discourage lower-income families from having these accounts. Children from lower-income families are less likely to attend college than other children, thus increasing the likelihood of being penalized for having an education savings account. These penalties partly explain why parents participating in Coverdell Education Savings Accounts (ESAs) and 529 plans have substantially higher income, on average, than other parents.²⁸

The Economic Growth and Tax Relief Reconciliation Act of 2001 (P.L. 107-16) provided low-and moderate-income individuals a nonrefundable tax credit for contributions to a qualified retirement plan (the Saver's Credit).²⁹ The maximum amount of the tax credit is \$2,000. The savings effects of this tax credit have not been fully evaluated yet, but early evidence suggests that many taxpayers are unable to receive the full benefit because the credit is nonrefundable.³⁰ In addition, the Saver's Credit appears to be substantially less effective in boosting saving among low-income individuals than a simple matching contribution possibly because of the complexity of the Saver's Credit and the tax system in general.³¹

(...continued)

savings and pp. 193-197 for a discussion of the empirical studies of IRAs. Subsequent to this survey, a paper by Orazio P. Attanasio and Thomas C. DeLeire, "The Effect of Individual Retirement Accounts on Household Consumption and National Savings," *Economic Journal*, vol. 112 (July 2002), pp. 504-538 found little evidence that IRAs increased savings. For additional surveys see the three articles published in the *Journal of Economic Perspectives*, vol. 10, no. 3 (Fall 1996): R. Glenn Hubbard and Jonathan Skinner, "Assessing the Effectiveness of Savings Incentives," (pp. 73-90); James M. Poterba, Steven F. Venti and David A. Wise, "How Retirement Savings Programs Increase Saving," (pp. 91-113); Eric M. Engen, William G. Gale, and John Karl Scholz, "The Illusory Effects of Savings Incentives on Saving," (pp. 113-138). A working paper by Alun Thomas and Christopher Towe, "U.S. Private Saving and the Tax Treatment of IRA/401(k)s: A Re-examination Using Household Saving Data," International Monetary Fund working paper 96/87 Aug. 1996 found that IRAs did not increase private household saving. A more recent study by Eric M. Engen and William G. Gale found that 401(k) plans, which are similar to IRAs in important ways, had a negligible to modest effect on savings. See "The Effects of 401(k) Plans on Household Wealth: Differences Across Earnings Groups," National Bureau of Economic Research working paper 8032, Dec. 2000. See also Douglas H. Joines and James G. Manegold, "IRAs and Savings: Evidence from a Panel of Taxpayers," Federal Reserve Bank of Kansas City research working paper 91-05, Oct. 1991; Daniel J. Benjamin, "Does 401(k) Eligibility Increase Saving? Evidence from Propensity Score Subclassification," *Journal of Public Economics*, vol. 83, no. 5-6 (2003), pp. 1259-1290; and Orazio P. Attanasio, James Banks, and Matthew Wakefield, "Effectiveness of Tax Incentives to Boost (Retirement) Savings: Theoretical Motivation and Empirical Evidence," *OECD Economic Studies* No. 39, 2004/2, pp. 145-172, which all present evidence that retirement saving tax incentives induce very little new saving.

²⁸ See Susan Dynarski, "Who Benefits from the Education Saving Incentives? Income, Educational Expectations and the Value of the 529 and Coverdell," *National Tax Journal*, vol. 57, no. 2 (June 2004), pp. 359-383; Sarah Holden, "Saving for College with 529 Plans," paper presented the Ninety-fifth Annual Conference on Taxation, Orlando, FL, Nov. 16, 2002; and Jennifer Ma, *Education Saving Incentives and Household Saving: Evidence from the 2000 TIAA-CREF Survey of Participants*, National Bureau of Economic Research Working Paper no. 9505, Feb. 2003.

²⁹ For a description of the Saver's Credit see William G. Gale, J. Mark Iwry, and Peter Orszag, *The Saver's Credit: Expanding Retirement Savings for Middle-and Lower-Income Americans*, The Retirement Security Project, Issue Brief no. 2005-2, Mar. 2005.

³⁰ See Gary Koenig and Robert Harvey, "Utilization of the Saver's Credit: An Analysis of the First Year," *National Tax Journal*, vol. 58, no. 4 (Dec. 2005), pp. 787-806.

³¹ See Ester Duflo, William Gale, Jeffrey Liebman, Peter Orszag, and Emmanuel Saez, *Saving Incentives for Low-and Middle-Income Families: Evidence from a Field Experiment with H&R Block*, National Bureau of Economic Research, (continued...)

Other Inducements

There are at least four other inducements that have been used to encourage savings for specific purposes. First, an initial or supplemental contribution can be placed in an individual's savings account. An example is the 1% agency contribution placed in a federal employee's Thrift Savings Plan (TSP) account.³² This contribution is placed in the account whether or not the employee chooses to make contributions to his or her account. This can encourage individuals to save by overcoming the inertia to open an account, and it allows individuals to observe the benefits of saving (for example, interest compounding) without risking their own money. Once the benefits of saving are experienced, individuals may be more willing to commit their own funds to the savings account.

Second, matching contributions can be made to an individual's account. This is a common practice in many 401(k) pension plans, including the federal Thrift Saving Plan. In the case of 401(k) pensions, part or all of an employee's contribution is matched by the employer. The more the employee contributes, the more the employer contributes up to a limit. The employer is essentially supplementing the employee's salary, but only if the employee saves. Empirical evidence suggests that small matching contributions (about 10 cents for every dollar saved) will increase employees' contributions. But increasing matching contributions past this point may have no effect on an employee's contributions or actually reduce his or her contributions.³³ If an employee has a set target for saving, for example, then increasing the employer's contribution means that the employee can save less and still meet his or her saving target. Limited evidence suggests that matching contributions could significantly increase contributions by low- and moderate-income families.³⁴

Third, tax-favored savings initially could be used only for a specific purpose, such as retirement in the case of 401(k) plans, and individuals faced a penalty for nonqualified uses of the savings. The penalty helps commit individuals to hold the funds for the desired purpose (such as retirement) rather than use them for current consumption. But individuals may be reluctant to give up the freedom to use the funds for other equally important purposes as individuals try to balance saving for retirement and saving for precautionary reasons. Over time, however, laws and regulations were changed to allow employees to borrow from their 401(k) plan or to make penalty-free withdrawals for emergency purposes. In addition to retirement after age 59½, qualified (that is, penalty-free) distributions can be made from IRAs for educational expenses, first-time home purchase, and medical expenses. There is some empirical evidence that pre-retirement access to 401(k) funds increases participation in and contributions to 401(k) pension plans.³⁵ But allowing pre-retirement access to 401(k) assets could also lead some to have smaller

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Working Paper no. 11680, Sept. 2005.

³² This applies only to federal employees in the Federal Employee Retirement System (FERS) system and not to employees in the Civil Service Retirement System (CSRS).

³³ See Leslie E. Papke, "Participation in and Contributions to 401(k) Pension Plans: Evidence from Plan Data," *Journal of Human Resources*, vol. 30, no. 2 (Spring 1995), pp. 311-325.

³⁴ See Ester Duflo, William Gale, Jeffrey Liebman, Peter Orszag, and Emmanuel Saez, *Saving Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block*, National Bureau of Economic Research, Working Paper no. 11680, Sept. 2005.

³⁵ U.S. Government Accountability Office, *401(k) Pension Plans: Loan Provisions Enhance Participation But May Affect Income Security for Some*, GAO/HEHS-98-5, Oct. 1997.

pension balances at retirement if the borrowed funds are never repaid or if withdrawn funds are never replaced.

Fourth, some firms have experimented with changing the default options for pension plans where participation is voluntary. For example, employees are covered by a firm's 401(k) plan only if they actively sign up and enroll in the plan. However, through inertia many employees do not participate. The default option, therefore, combines with worker inertia to yield low saving rates and little retirement savings. Changing the default to automatic enrollment means the employee has to actively opt out of the pension plan.³⁶ Recent evaluations of some firms that have changed to automatic enrollment shows that participation is significantly increased though this simple change. But through inertia, a substantial fraction of the new participants accept the firm's default contribution level and investment options for their pension assets.³⁷

Proposals to Increase Saving

In the FY2008 budget proposal, the Bush Administration proposed to encourage saving by expanding tax-free saving opportunities. The Administration proposed creating lifetime savings accounts (LSAs) and Retirement Savings Accounts (RSAs). The annual nondeductible contribution limits would be \$2,000 for LSAs and \$5,000 for RSAs, regardless of age or income. The RSA contribution, however, cannot be greater than earnings. The LSA and RSA would be similar to Roth IRAs in that investment earnings accumulate tax-free. Funds from the LSA could be withdrawn penalty-free at any time for any purpose, while RSA distributions would not be taxed or penalized if made after age 58, death, or disability. The annual contribution limit would be indexed to inflation.

The recent President's Advisory Panel on Federal Tax Reform proposed the creation of Save for Family Accounts (SFAs) to replace existing education and medical savings accounts, and Save for Retirement Accounts (SRAs) to replace traditional and Roth IRAs. This proposal would allow every taxpayer to contribute up to \$10,000 every year to an SFA and an SRA on an after-tax basis.³⁸ The earnings would accumulate tax-free in the same way as in the current Roth IRA. Tax-free withdrawals would be allowed at any time from the SFA for qualified educational and medical costs, or to purchase a primary residence. In addition, taxpayers would be able to withdraw up to \$1,000 tax-free each year for any purpose. Nonqualified distributions in excess of the \$1,000 limit would be subject to income taxes and a 10% penalty tax, similar to the penalty paid on nonqualified distributions from the current Roth IRA. Tax-free withdrawals from SRAs would be allowed after age 58, death, or disability. Nonqualified withdrawals would be subject to the income tax and a 10% penalty tax.

Both the Bush Administration proposal and the President's Advisory Panel plan shift savings incentives from the front-loaded form to the back-loaded form. Most of the arguments regarding increasing private saving, however, apply to front-loaded savings plans. Back-loaded plans or Roth IRAs eliminate (1) the immediate reward to retirement saving (the tax deduction), and (2)

³⁶ For a review of IRS rulings regarding automatic enrollment in 401(k) plans, see CRS Report RS21954, *Automatic Enrollment in 401(k) Plans*, by Patrick Purcell.

³⁷ See Brigitte C. Madrian and Dennis F. Shea, "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior," *Quarterly Journal of Economics*, vol. 116, no. 4 (Nov. 2001), pp. 1149-1187.

³⁸ Contributions to the SRA can not exceed earnings.

the need to save for future tax liabilities. Consequently, shifting from front-loaded to back-loaded savings approaches may reduce personal savings. In addition, the long-term revenue loss from these proposals could be substantial thus leading to a large reduction in public saving.³⁹ The result of these savings proposals could be a large reduction in national saving and a reduction in economic growth.

The Administration also proposed the establishment of Individual Development Accounts (IDAs) for lower-income individuals and families. Eligible individuals and families could set up IDAs with qualified entities who would then match the first \$500 contributed in a taxable year.⁴⁰ Contributions would not be tax deductible and investment earnings would be subject to tax, but the matching contributions and associated investment earnings would be tax-free. Qualified withdrawals could be made from IDAs for higher education, first-time home purchase, business start-up, or qualified rollovers. Withdrawals for other purposes could result in forfeiture of some or all of the matching contributions and earnings. IDAs could increase personal saving by stimulating new saving by low-and moderate-income taxpayers. The matching contributions would reduce public saving but increase personal savings by the same amount. The overall effect on national saving would, therefore, likely be positive.

A recent proposal offered by analysts at the Brookings Institution moves away from reliance on tax incentives to encourage retirement saving.⁴¹ The proposal has several elements designed to remove behavioral barriers to saving. The two major elements are (1) automatic enrollment in 401(k) plans or in an IRA if the employer does not sponsor a pension plan, and (2) a 30% government matching contribution. The government contribution would replace the current tax deduction for retirement saving contributions. Other elements include allowing participants to borrow from their retirement account, and removing retirement savings from the asset test for public assistance eligibility.

Conclusions

Various motives have been identified as to why people save, and survey evidence suggests that people know why they should save. However, many people do not save. Many reasons have been offered to explain low saving rates and low savings. Economic barriers to saving include disincentives induced by government policies and life-cycle changes in the propensity to save. Behavioral explanations for low savings stress that individuals can make choices that are unfavorable to themselves. To overcome these barriers, the government offers a variety of saving incentives.

Most of the government incentives to save come through the tax system. For FY2007, these tax incentives are estimated to cost the U.S. Treasury \$133.8 billion in forgone tax revenues—almost 85% of the estimated FY2007 budget deficit. The tax incentives primarily benefit higher-income

³⁹ See CRS Report RL32228, *Proposed Savings Accounts: Economic and Budgetary Effects*, by Jane G. Gravelle and Maxim Shvedov. The report suggests that the 10-year cost after 2015 of the Administration's proposal could be in the neighborhood of \$300 to \$500 billion.

⁴⁰ Eligibility is limited to U.S. citizens and legal residents between the ages of 18 and 60 years who cannot be claimed as a dependent on another taxpayer's return, with modified adjusted gross income less than \$20,000 for individuals, \$30,000 for heads of household, and \$40,000 for married taxpayers filing a joint return.

⁴¹ See William G. Gale, Jonathan Gruber, and Peter R. Orszag, *Improving Opportunities and Incentives for Saving by Middle-and Low-Income Households*, Brookings Institution, Hamilton Project White Paper no. 2006-02, Apr. 2006.

families because they (1) are more likely to save, and (2) face higher marginal tax rates and thus benefit more from sheltering income from taxation. The tax incentives, however, appear to be relatively ineffective in inducing new saving—many of the families benefitting from the tax incentives likely shifted funds from other saving accounts into the tax-preferred accounts. Consequently, public saving is lower because of the forgone tax revenues due to the tax incentives while personal saving may be only slightly increased at best. In designing pro-saving policies, it is important to consider the aggregate effects of the policies on all components of national savings, both public and private.

The Bush Administration and the President’s Advisory Panel on Federal Tax Reform have advocated expanding tax incentives as the primary policy to encourage saving. Personal saving has been shown to be fairly unresponsive to tax incentives, however, and they may substantially decrease public saving (that is, increase the budget deficit). The long-term net effect on national saving is likely negative. Other proposals offered by retirement experts are designed to (1) overcome behavioral barriers to saving, and (2) redistribute the benefits of government saving incentives more broadly across the population. These proposals could increase personal saving, but could also decrease public saving.

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